International Research Journal of Electronics and Computer Engineering Vol 1(3) Oct-Dec 2015

A Sample Reduction and ANN Based Classification of Temporomandibular Joint Sounds

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***Abstract*— In this study, a portable sound recording equipment along with the user interface software is developed for Temporomandibular Joint (TMJ) sound classification. TMJ is simply known as jaw bone joint and problems arising from problematic joints known as Temporomandibular Disorder (TMD). TMD is a frequent disorder, it is so common that more than two third of population have some kind and level of TMD. TMJ sound listening one of the diagnose methods by the clinic dentists. In the study mentioned TMJ sounds are collected by portable equipment. After collection of data, some signal processing and data reduction based on sample reduction is realized. After obtaining relatively low point of data, ANN based classification of the sound waves are realized. Classification success rate is 78.9%.**

***Index Terms*: TMJ, TMD, sound classification, sample reduction, ANN based classification**